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ABSTRACT

A longitudinal study was conducted to examine long-term effects of the Parent Education Follow Through Program (PEFTP) on participating students enrolled in the Richmond, Virginia, Public School System. PEFTP, one of 15 federally funded national Follow Through models, implements its compensatory elementary education program in various communities throughout the nation. Intended for low-income children in the primary grades, the focus of PEFTP is on parent involvement and parent participation in the educational system. A total of 122 subjects, children who had entered the program as kindergarten students during 1969-70, 1970-71, or 1971-72 (or who had joined one of these cohorts before the third grade) participated in the program for a minimum of 2 years. Each subject had a sibling between 1 and 5 years older and possessed a complete cumulative school record as of the end of the 1980-81 school year. With coded data from subjects' cumulative files, comparisons were made between program participants and their older siblings. Results for special education placement, grade retention, and dropout status were reported. No significant difference was found between groups on years of placement in special education or on frequency of grade retention. A significant difference did favor the PEFTP group on dropout frequency. In addition, significant differences were found favoring the PEFTP females on the frequency of grade retention. (RH)

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Long-Term Effects of Parent Education

Follow Through Program Participation

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Long-Term Effects of Parent Education Follow Through Program Participation

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Abstract

This paper describes a study which was completed in a participating Parent Education Follow Through Program (PEFTP) community located in an eastern urban setting and composed of predominantly black families. The purpose of the study was to investigate the later effects of the PEFTP upon students who entered the program during the 1969-70, 1970-71, and 1971-72 school years. One hundred twenty-two PEFTP graduates were compared to a comparison group of 122 older siblings on three outcome variables: special education placement, frequency of grade retention, and drop-out status. A sign test was performed on each of the three outcome variables. A significant difference (favoring the PEFTP group) was found between the PEFTP and older sibling groups on drop-out frequency. Significant differences were also found favoring the PEFTP females (when paired with either a male or female sibling) on the frequency of grade retentions. In addition, the average years of placement in special education for the sibling group was more than twice that of the PEFTP group. This study is significant because it provides information on the later effects of a federally-funded compensatory education program for early school-aged children and their families on outcomes that have not been traditionally investigated.

Long-Term Effects of Parent Education Follow Through Program Participation

What has happened to the early participants of compensatory education programs such as the Parent Education Follow Through Program? Now that these children are old enough to be enrolled in high school, how do they compare with non-program participants in terms of the indicators of school success? According to Goodrich and St. Pierre (Note 1), "the long-term effects of educational programs is an important but neglected area of study" (p.1). The findings presented in this paper are from a longitudinal study undertaken to answer questions such as those mentioned above and to look at the long-term effects of the Parent Education Follow Through Program.

The Parent Education Follow Through Program (PEFTP) is one of fifteen federally funded, national Follow Through models which implements its compensatory elementary education program in various communities throughout the nation. The program is intended for low-income children in grades K - 3. The focus of the PEFTP model is upon parent involvement and parent participation in the education of their children. The major tenets of the program are that parents are the first and most important teachers of their children and that the home, the school, and the community should work in reciprocal ways to enhance the development of children. Three key features of the PEFTP are:

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(1) a home visit component in which paraprofessional parent educators visit the homes of the children and deliver home learning activities which the parent does with the child, utilizing specific teaching behaviors; (2) a parent volunteer element in which parents spend time in their child's classroom, often engaged in instructional activities; and (3) active parent involvement in the governance and operation of the program.

The PEFTP has been implemented in ten communities during the past 13 years. Each of these communities works closely with the model sponsor located at the University of North Carolina in Chapel Hill. The setting for this study, which will be described in more detail later, is one of these communities. Three groups of students in this community who entered the PEFTP in either 1969-70, 1970-71 or 1971-72 were in grades nine through eleven during the 1980-81 school year (the time of data collection), if normal grade progression is assumed. This sample will be discussed in greater detail in a later section.

Recently, the importance of investigating long-term effects of programs for children and families has received increased attention (e.g., Gray, Ramsey, & Klaus, 1982; Schweinhart & Weikart, 1980; Cloud, Rentfrow, Hildebrandt, Abrahms, & DeCausey, Note 2). The purpose of this study is to examine the later effects of the PEFTP upon the above mentioned sample for the following outcome variables: special education placement, grade retention, and drop-out rate as indicators of school success. In most longitudinal studies of compensatory education programs, educational researchers have focused on IQ or achievement outcome variables and have overlooked outcome variables such as those included in this study.

Theoretical Framework

As mentioned above, special education placement, grade retention, and drop-out rate can be considered to be indicators of school success. In addition to school success, some researchers use other terms to denote the same concept.

For example, Zigler (1970; 1973) and Zigler and Trickett (1978) use the phrase "social competence." This construct encompasses a broad range of successes in meeting societal expectations and in personal development. These variables include not only intellectual ability but also health, social and emotional development, family involvement, and social change (Zigler, 1979). Behaviors which come under the social competence concept include the occurrence of school continuance and gainful employment as well as the non-occurrence of grade retention, placement in special education classrooms, and teenage pregnancy (Zigler & Trickett, 1978).

When mentioning one of their rationales for studying the long-term effects of educational programs, Goodrich and St. Pierre (Note 1) use the phrase "life chances" in reference to the variables of interest. They state:

> Follow Through's overall objective has been to improve the "life chances" of low-income children. College attendance, future earnings, social mobility, and other post-school variables are all important indicators of success in life but are not currently available. Feasible life chances studies could concentrate on earlier, accessible indicators of success such as post Follow Through school attendance, special education placement, grade retention, dropout rate, grades, course selection, and discipline records. (p.2)

The long-term effects of compensatory education programs have recently begun to be evaluated and the research has focused more upon some of the specific variables which reflect social competence, school success, or life chances. The largest and most ambitious study of preschool compensatory education has been that of the Consortium for Developmental Studies (Note 3), presently called the Consortium for Longitudinal Studies (Note 4). This collaboration of twelve experimentally designed and well-implemented preschool programs provided a wealth of data which were initially analyzed for program impact upon grade

retention and special education placement. Significant effects favoring program children were found for three of five programs in which data were analyzed for special education placement. An analysis of data pooled across programs showed a significant program advantage relating to grade retention. According to Schweinhart and Weikart (1980), "The most important finding of the Consortium is that early childhood intervention decreased the numbers of students placed in special education or retained in grade" (p. 80).

In another analysis of these data, programs were rated on certain variables and the correlations between these variables and special education placement and grade retention were examined (Vopova & Royce, Note 5). For special education placement, age of entry was negatively related to program effectiveness as was child-adult ratio, which was found to be the single most effective variable. In addition, programs with parent involvement, and particularly those with home visit components were found to be most effective.

From 1978-1980, extensive follow-up data on parents and children were analyzed by the Appalachiar Educational Laboratory (AEL) concerning the HOPE experiment in the late 1960's. This early intervention approach targeted rural preschool Appalachian children with a combination of treatment components including home visitation to parent and child. In reporting the findings of this follow-up study, Gotts (Note 6) states:

> Over the first six years of school the HOPE children had better attendance records ($p < .01$), higher teacher grades in basic skills areas ($p < .01$), and were far less likely to have been held back a grade in school ($p < .01$). In fact, retention in grade was reduced from 25 percent to 5 percent by HOPE. (p. 27)

Gotts (Note 6) states further that: "Home visitation seems, thus, to have reduced the rate of retention in grade....It is worth noting that there was a very low

use of special education in these rural schools in the early 1970's. Retention in grade appears to have been used in place of special education" (p. 26). In light of this, perhaps the effect of this intervention was even greater upon grade retention than it appears.

One of the twelve preschool programs included in the Consortium was the Early Training Project, developed by Susan Gray. Gray et al. (1982) reported the results of their seventeen year follow-up of this project which indicated a significant program advantage for program females for grade retention, drop-out rate, and placement in Educably Mentally Handicapped (EMH) classrooms. Additionally, program females who became pregnant during high school were more likely than pregnant control females to continue their schooling.

David Weikert's Perry Preschool Program is another Consortium project in which long-term effects have been examined (Schweinhart & Weikert, 1980). The experimental group placed a significantly higher value on schooling, had a lower rate of placement in special education classes, and reported less delinquent behavior than subjects in the comparison group. No significant differences were found between the groups for grade retention.

Data on school-aged compensatory education programs are more scarce. In one study, using a conceptual model similar to that of the Consortium, the later effects of the Tuscon Early Education Model Follow Through Program were evaluated for grade retention, special education placement, drop-out rate and attendance (Cloud et al., Note 2). Their results showed that, "Again, the incidence of retention and special education placement was found to be lower for children who had participated in a comprehensive early education program" (p. 3).

A less frequently examined outcome of compensatory education programs is cost relationships which are also relevant to the theoretical framework.

No dollar amount has been placed on the cost of maintaining a child in a special education class, of retaining a child in a grade, or of a child dropping out of high school, but it is generally accepted that these events are costly to society as well as to the child. The greater number of years spent in school beyond the expected graduation date (especially if repeating one or more grades or receiving special remedial services), the greater the cost to the school systems and the greater the loss of years of potential earning power and career development to the future adult. In the case of school drop-outs, these persons have a greater than average likelihood of becoming less productive citizens. In terms of cost effectiveness, there is little doubt that the money spent on operating certain compensatory education programs is money saved in the long run. As Schweinhart (Note 7) points out when discussing the report of the study by Weber, Foster, and Weikart (1978) on an economic benefit-cost analysis of the High/Scope Foundation's Perry Preschool Project, "Taken against the cost of program operation, the benefits amounted to a 248 percent return on the original investment" (p. 1). If a preventive program for lowering the incidence of these three indicators of school success (grade retention, special education placement, and drop-out rates) can be found, there should be little question of the cost effectiveness of the program.

The argument for early intervention and the effects of early childhood education is perhaps best summed up by Palmer and Anderson (1979) in their discussion of long-term gains of the Consortium's early education programs. They state, "Those variables [percent retained in grade and assignment to special classes] best measure the ability to survive in the schools. They have implications not only for the academic performance of children, but for socio-emotional and cost aspects as well" (p. 447).

Method

Setting

This study was conducted in the city of Richmond, Virginia which is located in the center of a metropolitan area. The population of the entire metropolitan area is approximately 546,000, while the city of Richmond has a population of approximately 227,000 (Ellis, 1980).

The PEFTP was adopted by the Richmond Public School System in 1968. This system is basically an inner city school system with a predominantly black student population. Through the years the PEFTP has been implemented in 40 classrooms in 10 elementary schools around the city of Richmond. The level of program implementation has been consistently high as indicated by both local evaluation reports and model sponsor evaluation reports (Halstead, Note 8; Olmsted & Rubin, Note 9).

Sample

The sample of program children for this study has been drawn from those children who entered the program as kindergarten students during 1969-70, 1970-71 or 1971-72, or joined one of these cohorts before third grade. Using a 1980-81 directory of students in the community's school system, a listing was made of all program students in the system at that time. Utilizing the current student directory of the community to locate student files, the final list of subjects was compiled consisting of children who: (1) had participated in the PEFTP program for a minimum of two years; (2) had a sibling between 1 and 5 years older; and (3) had a complete cumulative school record as of the end of the 1980-81 school year. The initial number of subjects in the three cohorts was approximately 450 and the number who met the three criteria just listed was 122.

The sample of comparison children is composed of older siblings of students in the program sample. For each program child, the older sibling closest in age

who had not participated in the program and who had a complete cumulative record was selected for the comparison sample. The use of an older-sibling comparison group design has been reported by other researchers (e.g., Jensen, 1974; Cloud et al., Note 2). One advantage of an older-sibling comparison group design is the common backgrounds of the subjects in the two groups, including home, neighborhood or community, and school. Although evidence has been found of program effects diffusing down to younger children in the family, there has been no evidence of upward diffusion; so it is reasonably safe to conclude that there are few, if any, contaminating program effects for the comparison group (Gray, 1971; Moreno, 1974; Ware, Organ, Olmsted & Moreno, 1974).

The final set of subjects consisted of 122 program children and their older siblings. The number of program children from each cohort was: 1969-70=59, 1970-71=46 and 1971-72=17. The ethnicity distribution for the 122 families was black=91% and white=9%. Of the Follow Through group, 48% were female and 52% were male while for the older sibling group, 51% were female and 49% were male.

The family status for the 122 families included in the study was as follows:

Family Status	%
Children living with two parents	37
Children living with one parent	56
Children living with guardian	5
No information	2

The levels of education for the father and mother for the families in the study were as follows:

Level of Education	% Fathers	% Mothers
8th Grade or less	12	7
9th-12th Grade	45	63
Beyond high school	3	7
No information	40	23

During the 1980-81 school year, 61% (n=75) of the program children and 39% (n=48) of the older sibling group were still enrolled in the Richmond Public

School System. The distribution of the students in these two groups across grade levels was as follows:

Grade*	% PEFTP group	% Older Siblings
7	3	0
8	13	6
9	31	21
10	28	19
11	13	17
12	12	33
Special Ed.	0	4

*Includes students in the grade level for initial time as well as those repeating a grade level.

For the remaining subjects in each group (program group, 39% [n=47] and older sibling group, 61% [n=74]), the reasons for leaving school and the percentages in each category are as follows:

Reason	% PEFTP	% Older Siblings
Graduated	70	45
Dropped Out	28	51
Other	2	4

Procedure

The initial step consisted of obtaining written consent from the school system for conducting the study, as well as consent from the Richmond PEFT program director and the chairperson of the policy advisory committee. Following this, the instrument on which student cumulative file information was to be coded was developed by the PEFTP model sponsor staff at the University of North Carolina in Chapel Hill (UNC-CH). Data that were coded included such information as assignment to special education, grade retention, drop out status, family status, and ethnic group membership.

Five persons currently residing in the community were employed as coders. Their training consisted of 2½ days of instruction and practice coding and was conducted on-site by a PEFTP sponsor staff member from UNC-CH. Once the training was completed, each person coded ten randomly selected student cumulative records

for use in obtaining the first estimate of reliability (Time 1). This estimate was obtained by comparing the records of the coders with records coded by the trainer, who served as the standard criterion. A second estimate of reliability was obtained using the same procedure at the completion of the date coding (Time 2).

Reliabilities (as compared to the criterion) for items relevant to the present study were as follows:

Item	Time 1	Time 2
ethnicity	100%	100%
sex	100%	100%
birthdate	96%	100%
placement in special education	80%	100%
type of special education services	95%	99%
number of years in special education	95%	99%
incidence of grade retention	82%	96%
number of times retained	90%	100%
grade in 1980-81	86%	90%
reason left school	92%	90%
grade left school	88%	90%

One final reliability check was made between the person who coded the data for computer processing and the person serving as the standard criterion throughout the study. Each person computer-coded ten completed coding-forms received from Richmond. An estimate of inter-coder agreement was then calculated. All reliabilities for items relevant to the study ranged between 90% and 100%, with nearly all reliabilities being 100%.

Hypotheses

The data to be reported in this paper include only a small number of the total set of outcome variables. The hypotheses to be tested in this study are as follows:

1. There is no significant relationship between participation in the PEFTP and the frequency of assignment to special education programs.

2. There is no significant relationship between participation in the PEFTP

and the frequency of grade retention.

3. There is no significant relationship between participation in the PEFTP and the frequency of drop-out.

Results

Descriptive and nonparametric statistics are presented in this section for each of the three variables that have been examined: special education placement, grade retention, and drop-out status. Each variable was treated separately in the analyses that were performed. It should be noted that the authors recognized that it would have been desirable to treat the three variables together in a multivariate type of design. This was not feasible because the data being analyzed were categorical and a multivariate analysis for categorical data utilizing multidimensional contingency tables (see Kleinbaum & Kupper, 1978 and Swafford, 1980) could not be performed at this time. For all data analyses, PEFTP students and their older siblings were treated as matched pairs.

Before any analyses could be completed, the data from the sample had to be adjusted. First, all sibling pairs in which either member had special education experience were deleted from the grade retention and drop-out analyses. This was done because the special education placement of a student could differentially affect that student's probability of being retained or dropping out. This adjustment decreased the sample size by 16 from a total of 122 PEFTP-sibling pairs to 106 PEFTP-sibling pairs for the grade retention and drop-out variables. For this analysis, the special education variable included the categories of educably mentally handicapped, learning disabled and emotionally disturbed.

The next adjustment related to the data for the grade retention variable. The authors realized that one member of a PEFTP-sibling pair may have had more years of schooling than the other member. If this were the case, then the member of the pair with fewer years of schooling would not have had an equal

opportunity to be retained and the results would be biased in favor of the student with fewer years of schooling. Therefore, grade-retention data that pertained to the extra years of schooling for the student with more years of schooling were deleted from the sample. For example, if the PEFTP student in pair number one had six years of schooling and the sibling had nine years of schooling, only grade-retention data would be deleted for the older sibling's last three years of schooling. Out of a total of 106 pairs, 13 siblings and 1 PEFTP student had their grade retention data reduced. In no case were the data reduced by more than one grade retention for each student.

The last adjustment made to the sample included deleting 17 PEFTP-sibling pairs from the drop-out data set. If one of the two students in the pair was not 16 years of age or older, then the entire pair was deleted for the drop-out analysis. In this community, a student who is 16 years of age or older can drop out of school without parental permission. Therefore, member(s) of the pairs who were younger than 16 years of age would not have the same opportunity to drop out as member(s) of the pairs with students who were 16 years of age or older. Results would be biased in favor of the pairs that had students younger than 16 years of age.

Descriptive and Nonparametric Statistics

As mentioned earlier, descriptive data and nonparametric statistics are reported for the three variables: years in special education, frequency of grade retentions, and the frequency of drop outs. The data are treated according to PEFTP-sibling pairs.

The data for the three variables were reduced to sign information (+ or -) so that a sign test could be performed. This test is used (for two related samples) when quantitative measures are not available and when it is possible to rank the data with respect to each member of the pairs being analyzed (Siegel, 1956). The authors decided upon the sign test in place of the Chi-square statistic

because the latter requires independence of the two groups. In addition, a t-test for dependent samples could not be performed because quantitative interval data were not available (Kirk, 1978). For each pair, a plus ("+") was assigned if the PEFTP student performed better than his or her sibling. A minus ("-") was assigned if the sibling performed better than the PEFTP student. Each pair that had identical signs for its two members were dropped from the analysis. If the total of +'s and -'s for the variable being analyzed was greater than 25, a z value was computed. It should be noted that all sign tests performed were one tailed tests because the authors predicted in advance which sign (+ or -) would occur more frequently (e.g., PEFTP students will be placed less frequently in special education than their older siblings [+ sign]). A significance level of $p < .10$ was set for all three variables which constitute school success. Since there were three variables subsumed under the category of school success, the alpha level was split to equal $p < .033$ (Miller, 1966).

Descriptive and nonparametric statistics: years in special education. The null and alternative hypotheses for the special education variable are as follows:

H_0: There is no significant relationship between participation in the PEFTP and the frequency of placement in special education.

H_1: PEFTP students will be placed less often in special education than their older siblings.

The data compiled for the PEFTP-sibling pairs indicate that 16 out of a total of 122 pairs had students who have had some special education experience. In Table 1, the range of years of placement in special education for PEFTP students and older siblings is presented. A review of the data indicates that for PEFTP students the range was zero to eight years while the range for the older siblings was zero to ten years. Eight PEFTP students and nine older siblings had special education experience.

In Table 2, the results for the sign tests for all three variables are presented. For special education experience, a total of 16 pairs was examined. Nine pairs included PEFTP students who had fewer years in special education than their siblings (sign = "+") while seven pairs included PEFTP students who had more years in special education than their siblings (sign = "-"). The results showed that there is no significant difference between the two groups on years of placement in special education for the PEFTP-sibling pairs ($p > .033$).

Data were examined for each of the four combinations of pairs by sex: PEFTP female and sibling female, PEFTP female and sibling male, PEFTP male and sibling male, and PEFTP male and sibling female. The results for these four categories were similar to the results for special education reported in Tables 1 and 2. Therefore, the results for these pairs categorized by sex will not be presented.

The average years of placement in special education for the PEFTP students who were assigned to special education was 2.25. The comparable figure for the sibling groups was 5.22. Therefore, the PEFTP group averaged several fewer years of placement than the sibling group.

Descriptive and nonparametric statistics: frequency of grade retention. The null and alternative hypotheses for the grade retention variable are as follows:

H_0: There is no significant relationship between participation in the PEFTP and the frequency of grade retention.

H_1: PEFTP students will be retained less often than their older siblings.

A total of 106 PEFTP-sibling pairs were examined. The reader is reminded that 16 pairs were deleted from the sample of 122 because one or more members of the pair had some special education experience. In addition, data were adjusted to equalize for opportunity of retention. In Table 3 are presented the descriptive data for the frequency of grade retentions for the PEFTP-sibling pairs. The range of times retained for the PEFTP students was from 0 to 3 and

the range for the siblings was from 0 to 4. There was a total of 47 PEFTP students who were retained and a total of 54 siblings who were retained. The average number of times retained for the PEFTP and sibling groups was 1.6 and 1.7 respectively.

The results of the sign test indicate that there is no significant difference between the two groups on frequency of grade retentions for the PEFTP sibling pairs ($p > .033$). In this case, a total of 62 pairs were examined. Thirty-five pairs included PEFTP students who had fewer grade retentions than their sibling counterparts (sign = "+") and 27 pairs included PEFTP students who had more grade retentions than their sibling counterparts (sign = "-") (see Table 2).

An investigation of the frequency of grade retentions for PEFTP-sibling pairs by sex (e.g., PEFTP male and sibling male) revealed some interesting results. For example, out of the 32 PEFTP female and sibling female pairs, 11 pairs included PEFTP females who had fewer grade retentions than the female siblings (sign = "+") and 3 pairs included PEFTP females who had more grade retentions than their female siblings (sign = "-") (see Tables 2 and 4). There is a significant difference ($p < .033$) in favor of the PEFTP group for frequency of grade retentions when both members of the pair are female.

Similarly, a significant difference ($p < .033$) was found between the PEFTP and sibling groups for frequency of grade retentions when the PEFTP student was a female and the sibling was a male (see Table 2). In this case, there were 22 pairs of which 10 pairs included PEFTP females who had fewer grade retentions than the male siblings (sign = "+") and 2 pairs which included PEFTP females who had more grade retentions than the male siblings (sign = "-") (see Tables 7 and 5).

The results for the remaining sex-pair combinations (PEFTP male-sibling male and PEFTP male-sibling female) were similar to the results for frequency of

grade retentions for all pairs combined regardless of sex (see Tables 2 and 3). Therefore, the results for these sex-pair combinations will not be presented.

Descriptive and nonparametric statistics: frequency of drop outs. The null and alternative hypotheses for the drop-out variable are as follows:

H_0: There is no significant relationship between participation in the PEFTP and the frequency of drop outs.

H_1: PEFTP students will drop out of school less often than their older siblings.

A total of 106 PEFTP-sibling pairs were examined. Once again, the reader is reminded that 16 pairs were deleted from the original sample of 122 pairs because one or more members of the pair had some special education experience. In Table 6 are the descriptive data for the frequency of drop outs for the PEFTP-sibling pairs. Included in this table is a category labelled "no chance to drop out." This refers to the 17 pairs which included one or both of its members who were not 16 years of age or older by August, 1981. A total of 10 PEFTP students and 28 siblings had dropped out.

The results of the sign test indicate that 22 pairs included PEFTP students who did not drop out while their siblings did (sign = "+") and 4 pairs where PEFTP students did drop out while their siblings did not (sign = "-"). It should be noted that pairs were not included in the sign test in which both members dropped out (yes, yes) or did not drop out (no, no). There was a significant difference found between the two groups on the incidence of drop out ($p < .033$) and the H_0 was rejected in favor of H_1 (see Table 2).

Data were examined for each of the four combinations of pairs by sex: Follow Through female and sibling female, Follow Through female and sibling male, Follow Through male and sibling male, and Follow Through made and sibling female. The results for these four categories did not reveal any additional

information since the sample size in each category was so small. Therefore, the results for these pairs categorized by sex will not be presented.

Discussion

The results just presented indicate that there was a significant difference favoring the PEFTP group on drop-out frequency. In addition, significant differences were found favoring the PEFTP females (when paired with either a male sibling or a female sibling) on the frequency of grade retentions.

Although the sign test results were not significant for the special education variable, the average number of years of placement in special education for the sibling group was more than twice that of the PEFTP group. The sign test which was used to analyze these data only reflects whether or not one member of a pair performed better than the other member rather than how much better.

The reader is reminded that the results should be interpreted with caution. The findings can only be generalized to a similar black urban population. In addition, it should be noted that the national Follow Through program was not originally designed as an educational experiment and therefore, no random assignment was employed. However, in this study, PEFTP students were compared with their siblings, so that many important SES and home background factors were adequately controlled. Additionally, many characteristics of the sample were representative of those of the general school population of Richmond.

Issues of external validity were considered before analyzing the data for this study. One of these issues relates to assignment to special education. In 1969, (Wells, Note 10) the Richmond, Virginia school system developed a system for assignment to special education. This system has remained unchanged to the present time. The manner in which children were placed in special education under this system was consistent with the content of PL94-142 which was introduced in the 1970's. Consequently, the procedures used for assigning

children into special education were the same for the PEFTP and sibling groups.

Another external-validity issue involved the grade retention policies of the Richmond Public School System. During the 1970's, competency tests were introduced following grade two, five, eight, and twelve. The incidence of grade retentions may have been affected by the inception of these competency tests. The timing of this competency testing system may have differentially affected the incidence of grade retentions in the sibling and PEFTP groups. If the sibling group had been exposed to this testing system for as many years as the PEFTP group, then the incidence of grade retentions may have been higher for the sibling group.

Another factor pertaining to this study relates to the early stage of development of the PEFTP at the time when these families were participants. Out of 122 children who were included in the sample, 105 came from the earliest two cohorts. After that time, the program became more well-defined each year. In the early years, there was little or no pilot testing of materials and less intensive training of program staff.

Outcome variables usually included in later-effects studies are limited to IQ or achievement measures. Recently, such studies have gone beyond these outcome variables to include such measures as grade retention and assignment to special education. Little attention has been given to drop-out rate as an outcome variable. This study is one of the first studies to examine drop-out rate in addition to grade retention and special education placement.

Variables related to school success such as special education placement, grade retention and incidence of drop out continue to affect students' opportunities to become productive citizens in our society. A primary prevention program such as the Parent Education Follow Through Program which focuses on education in both the home and the school is one which has positively affected

variables such as the ones included in this study. A program of this kind benefits not only an individual child but also the family, school system, and society by assisting its participants to become more successful members of society.

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Table 1

The Number of Years in Special Education

for the PEFTP -- Sibling Pairs

Numbers of Years of Special Education -- Siblings	Number of Years of Special Education-PEFTP				
	0	1	2	8	Total
0	106[a]	3	3	1	113
1	1				1
3	2				2
4	1				1
5	1				1
6	1				1
7		1			1
8	1				1
10	1				1
Total	114	4	3	1	122

[a] ▭ = the diagonal of the matrix

Table 2

Sign Test Results for Years in Special Education,

Frequency of Grade Petention, and Frequency of Drop Outs

for the PEFTP -- Sibling Pairs

Variable	N	Sign of Pairs [a] +	Sign of Pairs [b] -	Equal	[c] z	p
Years is Special Education	122	9	7	106		.402
Frequency of Grade Retention	106	35	27	44	.89	.187
Frequency of Grade Retention By Sex (PEFTP=Female, Sibling=Female)	32	11	3	18		.029*
Frequency of Grade Retention By Sex (PEFTP=Female, Sibling=Male)	22	10	2	10		.019*
Frequency of Drop Outs	106	22	4	80[d]	3.33	.0005*

a, b + = PEFTP students had fewer years in special education or fewer grade retentions or fewer drop outs than the siblings.
- = PEFTP students had more years in special education or more grade retentions or more drop outs than the siblings.

c If the number of +'s and -'s is larger than 25, a z value is given.

d This number includes the 17 pairs that had subjects who did not have a chance to drop out.

* $p < .033$

Table 3

The Frequency of Grade Retention

for the PEFTP -- Sibling Pairs

Frequency of Grade Retention -- Siblings	Frequency of Grade Retention-PEFTP				
	0	1	2	3	Total
0	[35][a]	11	5	1	52
1	14	[5]	7		26
2	5	7	[3]	3	18
3	5	3		[1]	9
4				1	1
Total	59	26	15	6	106

[a] [ ]=the diagonal of the matrix

Table 4

The Frequency of Grade Retention for

the PEFTP-Sibling Pairs by Sex (Female, Female)

Frequency of Grade Retention-Siblings (Female)	Frequency of Grade Retention-PEFTP (Female)			
	0	1	3	Total
0	18[a]	2	1	21
1	7	▭		7
2	1	1		2
3	1	1	▭	2
Total	27	4	1	32

[a] ▭ =the diagonal of the matrix

Table 5

The Frequency of Grade Retentions for the

PEFTP - Sibling Pairs by Sex (Female (PEFTP), Male (Sibling))

Frequency of Grade Retention - Siblings (Male)	Frequency of Grade Retention -- PEFTP (Female)				
	0	1	2	3	Total
0	[8][a]				8
1	3	[1]	1		5
2	1	4	[1]	1	7
3	1	1		[ ]	2
Total	13	6	2	1	22

a [ ] = the diagonal of the matrix

Table 6

The Frequency of Drop Outs

for the PEFTP-Sibling Pairs

Frequency of Drop Outs - Siblings	Frequency of Drop Outs-PEFTP			
	No chance[a] to Drop Out	No	Yes	Total
No Chance[a] to Drop Out	[17][b]			17
No		[57]	4	61
Yes		22	[6]	28
Total	17	79	10	106

[a] Subjects that were not 16 years of age or older did not have a chance to drop out. These 17 pairs had one or both of its members meeting this condition.

[b] [ ] = the diagonal of the matrix